CLAIM AMENDMENTS

1. (Currently Amended) A field grading material comprising:

~~a field grading effective amount of a nanoparticle filler distributed in a polymeric matrix, wherein the nanoparticle filler is heterogeneously distributed in the polymeric matrix.~~

a polymer matrix, said polymer matrix having one or more polymer phases; and

a field grading effective amount of a nanoparticle filler, said filler is: heterogeneously distributed in said polymer matrix such that said nanoparticle filler is well dispersed in at least part of one of said polymer phases; and said filler comprises less than 40% by volume of said field grading material.

2. (Currently amended) A field grading material according to claim 1, wherein ~~the~~ said nanoparticle filler is selected from semiconducting materials having an energy bandgap ranging from 0 eV to 5 eV and dielectric materials having a bulk dielectric constant at infinitely high frequencies of at least 5.

3. (Currently amended) A field grading material according to claim 1, wherein ~~the~~ said nanoparticle filler comprises a semiconducting material.

4. (Currently amended) A field grading material according to claim 1, wherein ~~the~~ said nanoparticle filler is selected from ZnO, SnO, InO, CeO, TiO_2, SiC, $BaTiO_3$, Al_2O_3, SiO_2 and mixtures thereof.

5. (Currently amended) A field grading material according to claim 1, wherein ~~the~~ said polymeric matrix comprises a rubber, a thermoplastic polymer, a thermosetting polymer, or thermoplastic elastomer.

6. (Currently amended) A field grading material according to claim 5, wherein ~~the~~ said polymeric matrix comprises at least one of a polyolefin rubber, a thermoplastic polyolefin elastomer~~/plastomer~~, a silicone rubber, ~~or~~ and a crystalline thermoplastic polymer~~, preferably a~~

~~crystalline thermoplastic polymer, and more preferably a polyethylene~~.

7. (Currently amended) A field grading material according to claim 5, wherein ~~the~~ said polymeric matrix comprises a polymer selected from EPDM and polyethylene.

8. (Currently amended) A field grading material according to claim 1, wherein ~~the~~ said polymeric matrix comprises a polymer blend of immiscible polymers.

9. (Currently amended) A field grading material according to claim 8, wherein ~~the~~ said polymer blend is selected from polyethylene/EPDM, LDPE/HDPE, and maleic anhydride-modified EPDM/EPDM.

10. (Currently amended) A field grading material according to claim 1, wherein ~~the~~ said nanoparticles have a particle size in at least one of a ~~ranging~~ range from 2 to 80 nm, ~~preferably~~ from 5 to 50 nm, and ~~most preferably~~ from 5 to 30 nm.

11. (Currently amended) A field grading material according to claim 1, wherein ~~the~~ said nanoparticle filler comprises less than 40% by volume of the field grading material, ~~preferably~~ less than 30% by volume of the field grading material, ~~and~~ or ~~most preferably~~ less than 20% by volume of the field grading material.

12. (Currently amended) A field grading material according to claim 1, wherein ~~the~~ a surface of ~~the~~ said nanoparticle filler is modified by treatment with a organosilane or organotitanate compound and the organosilane compound comprises an organic group selected from alkyl, alkylamino, amino and carboxy.

13. (Currently amended) A field grading material according to claim 12, wherein ~~the~~ said organic group is selected from methyl, decyl, octyl, vinyl, aminopropyl and acetoxy.

14. (Currently amended) A field grading material comprising a nanoparticle filler distributed in a polymeric matrix, wherein ~~the~~ a surface of ~~the~~ said nanoparticle filler is modified by treatment with an organosilane or organotitanate compound and ~~the~~ said organosilane compound comprises an organic group selected from alkyl, alkylamino, amino and carboxy.

15. (Currently amended) A field grading material according to claim 14, wherein ~~the~~ said organic group is selected from methyl, decyl, octyl, vinyl, aminopropyl, and acetoxy.

16. (Currently amended) A field grading material comprising a carbon nanotube filler distributed in a polymeric matrix, wherein ~~the~~ said filler is heterogeneously distributed in ~~the~~ said polymeric matrix and ~~the~~ said polymeric matrix comprises a rubber, a thermoplastic polymer, a thermosetting polymer, ~~or~~ thermoplastic elastomer, ~~preferably a polyolefin rubber, a thermoplastic polyolefin elastomer/plastomer, a silicone rubber~~ or a crystalline thermoplastic polymer~~, more preferably a crystalline thermoplastic polymer, and most preferably polyethylene~~.

17. (Currently amended) A field grading material according to claim 16, wherein ~~the~~ said polymeric matrix comprises a polymer selected from EPDM and polyethylene.

18. (Currently amended) A method for reducing electric field stress at a joint or termination of an electric cable, said method comprising introducing in ~~the~~ said joint or termination a field grading material according to claim 1.

19. (Currently amended) An insulating material comprising an insulating effective amount of a nanoparticle filler distributed in a polymeric matrix, wherein ~~the~~ said nanoparticle filler is heterogeneously distributed in ~~the~~ said polymeric matrix.

20. (Currently amended) An insulating material according to claim 19, wherein ~~the~~ said nanoparticle filler is selected from semiconducting materials having an energy bandgap ranging from 0 eV to 5 eV and dielectric materials having a bulk dielectric constant at infinitely high

frequencies of at least 5.

21. (Currently amended) An insulating material according to claim 19, wherein ~~the~~ said nanoparticle filler comprises a semiconducting material.

21. (Currently amended) An insulating material according to claim 19, wherein ~~the~~ said nanoparticle filler is selected from ZnO, SnO, InO, CeO, TiO_2, SiC. $BaTiO_3$, Al_2O_3, SiO_2 and mixtures thereof.

23. (Currently Amended) An insulating material according to claim 19, wherein ~~the~~ said polymeric matrix comprises a rubber, a thermoplastic polymer, a thermosetting polymer, or thermoplastic elastomer.

24. (Currently amended) An insulating material according to claim 23, wherein ~~the~~ said polymeric matrix comprises at least one of a polyolefin rubber, a thermoplastic polyolefin elastomer~~/plastomer~~, a silicone rubber, and ~~or~~ a crystalline thermoplastic polymer~~, preferably a crystalline thermoplastic polymer, and more preferably polyethylene~~.

25. (Currently amended) An insulating material according to claim 23, wherein ~~the~~ said polymeric matrix comprises a polymer selected from EPDM and polyethylene.

26. (Currently amended) An insulating material according to claim 19, wherein ~~the~~ said polymeric matrix comprises a polymer blend of immiscible polymers.

27. (Currently amended) An insulating material according to claim 26, wherein ~~the~~ said polymer blend is selected from polyethylene/EPDM, LDPE/HDPE, and maleic anhydride-modified EPDM/EPDM.

28. (Currently Amended) An insulating material according to claim 19, wherein ~~the~~ said

nanoparticles have a particle size in at least one of a ~~ranging~~ range from 2 to 80 nm, ~~preferably~~ from 5 to 50 nm, and ~~most preferably~~ from 5 to 30 nm.

29. (Currently Amended) An insulating material according to claim 19, wherein ~~the~~ said nanoparticle filler comprises less than 20% by volume of the insulating material, ~~preferably~~ less than 10% by volume of the insulating material, ~~and~~ or ~~most preferably~~ less than 5% by volume of the insulating material.

30. (Currently amended) An insulating material according to claim 19, wherein ~~the~~ a surface of ~~the~~ said nanoparticle filler is modified by treatment with an organosilane or organotitanate compound and ~~the~~ said organosilane compound comprises an organic group selected from alkyl, alkylamino, amino and carboxy.

31. (Currently amended) An insulating material according to claim 30, wherein ~~the~~ said organic group is selected from methyl, decyl, octyl, vinyl, aminopropyl and acetoxy.

32. (Currently amended) An insulating material comprising a nanoparticle filler distributed in a polymeric matrix, wherein ~~the~~ a surface of ~~the~~ said nanoparticle filler is modified by treatment with an organosilane or organotitanate compound and ~~the~~ said organosilane compound comprises an organic group selected from alkyl, alkylamino, amino and carboxy.

33. (Original) An insulating material according to claim 32, wherein the organic group is selected from methyl, decyl, octyl, vinyl, aminopropyl and acetoxy.

34. (Currently amended) An insulating material comprising a carbon nanotube filler distributed in a polymeric matrix, wherein ~~the~~ said filler is heterogeneously distributed in ~~the~~ said polymeric matrix and ~~the~~ said polymeric matrix comprises a rubber, a thermoplastic polymer, a thermosetting polymer, ~~or~~ thermoplastic elastomer~~, preferably a polyolefin rubber, a thermoplastic polyolefin elastomer/plastomer, a silicone rubber~~ or a crystalline thermoplastic

polymer~~, more preferably a crystalline thermoplastic polymer, and most preferably polyethylene~~.

35. (Currently amended) An insulating material according to claim 34 wherein ~~the~~ a polymeric matrix comprises a polymer selected from EPDM and polyethylene.

36. (Currently amended) A process for manufacturing a field grading material, said process comprising:

~~mixing a nanoparticle filler with at least one polymer in particulate form; and~~

~~heating the mixture to form a heterogeneous distribution of the nanoparticle filler in a matrix of the polymer.~~

mixing a nanoparticle filler with at least one polymer to form a mixture, wherein said polymer is in a particulate form, said polymer particulates being at least 10 times greater in size than said nanoparticle filler, and said polymer comprises a rubber, a thermoplastic polymer, a thermosetting polymer, or a thermoplastic elastomer; and

heating said mixture to form said field grading material.

37. (Currently Amended) A process according to claim 36, wherein ~~the~~ said at least one polymer comprises a mixture of immiscible polymers.

38. (New) A process according to claim 36, wherein said polymer is selected from a group consisting of polyolefin rubber, a thermoplastic polyolefin elastomer, a silicon rubber, and a crystalline thermoplastic polymer.

39. (New) A process according to claim 36, wherein said polymer is selected from EPDM and polyethylene.

40. (New) A process according to claim 36, wherein said polymer particulates are at least 100 times greater in size than the nanoparticle filler.

41. (New) A process according to claim 36, wherein said polymer particulates are at least 1000 time greater in size than the nanoparticle filler.

42. (New) A process according to claim 36, wherein said nanoparticle filler is semiconducting carbon nanotubes.